



# User Guide and Assembly Instructions Agriled® armature

Type: AGRILED® RED 250W/400W MH/HPS



AGRILIGHT b.v.

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IP64

## Dear Client

Firstly, we wish to thank you for choosing a product by Agrilight B.V. The AGRILED® RED armature constitutes part of the Agrilight range of products for the livestock industry and is designed for optimum lighting in livestock pens. The product is in full compliance with applicable regulations. The AGRILED® RED armature provides a high degree of resistance to intrusion of dirt, dust particles and water and also produces unparalleled light distribution and has a sustained life-cycle. These instructions provide the necessary information for handling and installing your AGRILED® RED armature safely and correctly. We therefore recommend that you read the instructions carefully and keep them in a safe place. In the event of doubt, please do not hesitate to contact your service technician or Agrilight B.V. for additional information.

## Installation

It is important to note that the AGRILED® RED armature should be installed by a certified technician. Failure to do so invalidates the product warranty. In compliance with the instructions for installation laid down by Agrilight BV, all generally and locally applicable building and construction regulations should be respected and complied with.

## Service Parts

To ensure proper operation of the unit, only original Agrilight B.V. components should be used, or components of the same quality. The trigger-switch does not comprise any serviceable parts.

## CE certification



With reference to the certificate of conformity for the AGRILED® RED, the CE mark on the type label of the AGRILED® RED indicates that the product is in full compliance with EU consumer safety, health and environmental requirements.

## Intended use

The AGRILED® RED armature is intended for the optimum lighting of livestock pens. Any other use is not in compliance with the intended use. Agrilight B.V. accepts no liability for damage or injury resulting from any use of the AGRILED® RED other than its intended use, i.e. for which it was developed and designed.

## For your own personal safety: Caution!

Agrilight B.V. attaches the greatest importance to the fact that the AGRILED® RED armature is operated and maintained in a manner that ensures the safety of the user. Please follow the instructions below in order to ensure the safe and reliable operation of the product:

1. Please read this manual before installing the armature.
2. Ensure that the persons responsible for installing and mounting/connecting the armatures of the AGRILED® RED are familiar with the instructions and all other relevant information contained in the manuals before commencing with the installation. Please ensure before installing that all instructions are fully understood. This is the responsibility of the certified technician who installs the equipment.



### 230V AC Power supply

AGRILED® RED components are connected to a 230V power supply.



### Safety instructions

Always follow and comply with the safety instructions of this manual.

If the safety instructions and warnings are not complied with, this may damage the installation and/or lead to severe or fatal injury.

## EU declaration of Conformity:

Manufacturer: Agrilight b.v.

Address: Vlotlaan 560, 2681 TX Monster, The Netherlands

Hereby certifies that the Agrilight B.V. armatures with type designation:

**AGRILED® RED 250W/400W MH/HPS**

comply with the provisions and regulations laid down in directive: "Low voltage", 73/23/EEG

And comply with the standards: **EN60598-1** and **EN60598-2-1**

Monster, 2010 Agrilight b.v.

We retain the right to make amendments to the text, drawings and diagrams without any prior notification.

## Unpacking and Inspecting

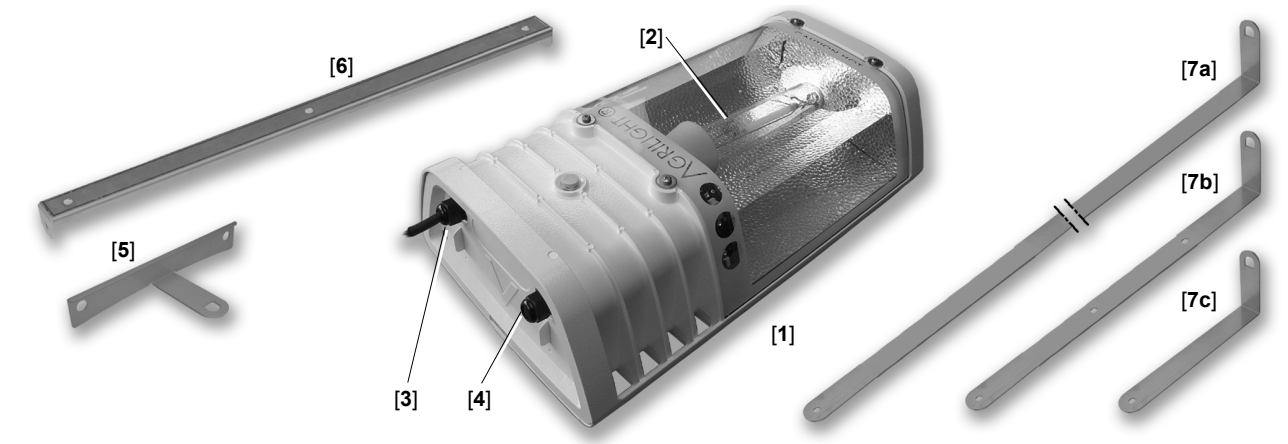
1. Unpack the AGRILED® RED armature with due care.
2. Inspect the contents of the packaging for any damage that may have occurred during transport.
3. In the event of damage, contact Agrilight B.V. immediately, with reference to the packaging documents. You are advised to discontinue the installation of the damaged AGRILED® RED armature, even if the damage in question appears to be superficial or only minor. In the event of damage, please consult Agrilight B.V. first, before you consider installing and operating the armatures.

## Scope of delivery and introduction

No.	Description	Quantity
[1]	Armature	1x
[2]	Light 250W/400W MH/HPS	1x
[3]	Feed-through gland (pre-mounted)	1x
[4]	Blind end (pre-mounted in feed-through gland)	1x
[5]	T-shaped bracket (for chain mounting)	2x
[6]	Fixture bracket	1x
[7]	(a) support 950 mm (for bracket mounting), or (b) support 450 mm (for bracket mounting), or (c) support 200 mm (for bracket mounting)	2x 2x 2x
[8]	Manual	1x

Any other fittings and fixtures (if these have been ordered).

The armature is supplied without power lead and without 0-10V control cable, unless agreed otherwise.



### Description of AGRILED® RED

The AGRILED® RED armature is specially designed for illuminating livestock pens and, apart from the HPS or MH primary lighting, also provides LED lighting. Depending on your requirements and the lighting plan, the primary light source of the armature has a:

- High-pressure Sodium lamp (that emits yellow light), or
- Metal Halide lamp (that emits white light).

The AGRILED® RED armature can be controlled by the Agribox control cabinet. The LED lighting produces a bright red monochromatic light of a lower intensity than the primary light source and operates as night lighting. Red light does not disturb livestock during the night which means that inspection rounds can be performed during the hours of the night without disturbing the animals. The integration of this night lighting no longer necessitates the installation of two separate armatures.

The AGRILED® RED armature consists of an aluminium housing comprising two separate compartments:

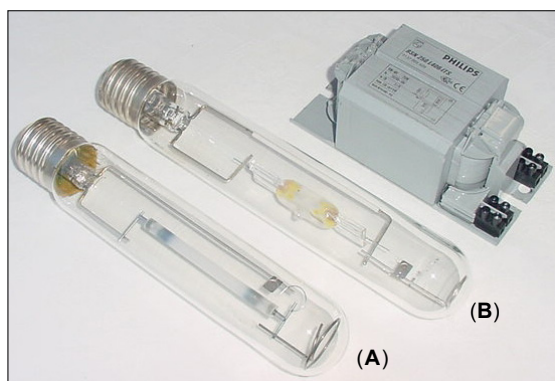
- The electronics compartment, and;
- the light compartment.

Both compartments are provided at both ends with a detachable plastic cover.

The light compartment is also covered with an armature glass **that may never be removed/detached**.

The armature is of the density class IP64. The assembly of reflectors ensures the optimum distribution of lighting.

### Primary lighting



The primary light source of the armature is a High-pressure Sodium lamp (A) emitting a yellow light or a white Metal Halide lamp (B) emitting a white light.

### Secondary LED lighting



The LED lighting is fully integrated in the armature and can be switched on 10 minutes after switching off the primary light source.

## Technical data

Specifications		AGRILED® RED		Remarks
Model		AL 250 W	AL 400 W	
Dimensions in mm. Weight (complete) Additional remarks		480x370x240 13,5 Kg --	480x370x240 14,6 Kg --	* Other voltages on request. ** for the power connecting values of the armature, these LED light parameters do not need to be taken into account as these are determined by the primary light source: the LED lighting and the primary light source should be connected up in such a manner that they can never be switched on at the same time. This means that the power connecting values are determined by the primary light source.
Primary PL lighting	Type of light: Power PL Voltage** Frequency Power supply Power factor (indicative)	HPS of MH 250 W 230V / 50Hz 1,3 A > 0,85	HPS of MH 400 W 230V / 50Hz 2,3 A > 0,85	
Secondary LED lighting	Type of light: LED Power Voltage** Frequency Power supply Power factor (indicative)	LED red 6 x 3 watt ** 230V / 50Hz < 0,2 A ** 0,52 **	LED red 6 x 3 watt ** 230V / 50Hz < 0,2 A ** 0,52 **	

## Installation

### General directives



**If the following instructions and safety warnings are not complied with, this may result in death or serious personal injury and damage to the equipment.**

- Only a certified technician is permitted to install the AGRILED®.
- Some caution is required when handling the armature, also to prevent damage being caused to the components due to mechanical stress. Avoid shocks and other kinds of stresses or loads during transport, when assembling and mounting, and when using the armature.
- Always block off any traffic in the vicinity where the AGRILED® is being installed before commencing with any work on the installation.
- Always disconnect the armature from the power source before carrying out any work on the installation. Ensure that the power supply is not turned on accidentally.
- Keep the direct vicinity free from animals and any internal transport whilst carrying out installation activities.
- Only use insulated tools!
- Please be aware that both the armature glass and the light can be very hot and cause severe burns. After switching off the armature, allow the light to cool down for at least 30 minutes before handling.
- Place and secure the light in the armature before mounting the armature.

- The armature glass must never be detached or removed as this will cause damage to the sealing. The warranty becomes invalid if the armature glass is detached or removed. A lamp may only be removed or inserted through the opening in the side of the light compartment. This opening can be accessed only when the plastic cover is detached.
- **In order to prevent thermal damage to the LED lighting, the LED lighting (secondary light source) may never be switched on at the same time as the primary light source. The LED lighting must be connected in such a manner that it cannot be switched on at the same time as the primary light source.**
- **Ensure that the power supply and voltage corresponds to the power supply and voltage required by the armature. These are clearly indicated on the armature sticker.**
- **When connecting up, consult the circuit diagram in this manual and always ensure that you comply with the legally applicable connecting requirements (e.g. NEN 1010 for the Netherlands).**

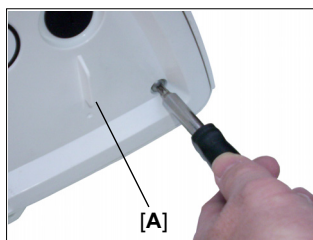
The lighting plan shows the conditions that must be taken into account when installing. These instructions must be fully complied with in order to ensure uniformity and a proper illumination level.



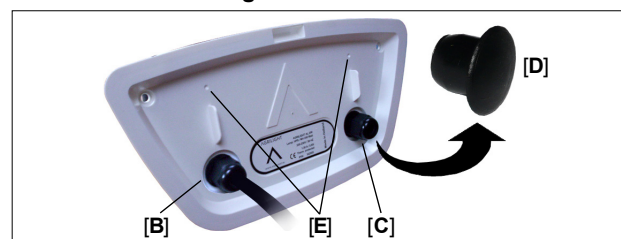
**Agilight B.V. cannot be held liable for damage and/or injury resulting from improper mounting and installation.**

### Opening and closing the electronics compartment

1. Remove the two Torx screws from the plastic cover of the light compartment using a Torx (T20) screwdriver.
2. Use the two tabs [A] on the cover in order to remove the cover.
3. After completing installation: clean the contact surfaces of the cover gasket and sealing and the cover of the armature using a mild detergent on a damp cloth. Inspect the rubber sealing and gasket and replace if necessary.
4. Rub some mild soap or acid-free vaseline onto the rubber sealing and gasket so that the cover can be fitted more easily.
5. Close the armature by replacing the cover and by screwing the two Torx screws tightly into position. To prevent damage to the cover or to the sealing do not use a battery-powered device to do this, nor apply excessive force. When closed, the cover should fit just inside the rim of the aluminium armature housing.



### Electrical feed-throughs



In order to feed the power lead into the armature, the armature is provided with the feed-through gland [B] in the plastic cover on the electronics side of the armature.

For feeding an additional cable/lead, the armature is provided with a blind end stop in feed-through gland [C].

Remove this blind end stop [D] in order to feed the cable/lead through the opening. On the cover of the electronics compartment there are two positions indicated for an additional feed-through gland: a centerline for drilling [E] is indicated for this purpose just above the two tabs on the cover. Insert an appropriate feed-through gland of the correct IP class after drilling the hole.



**No other holes or openings may be made in any other place in the cover as this will affect the operation and safety of the armature.**



## Removal of the electronics mounting plate

The mounting plate can be detached if replacement (or repair) of the triggering device is needed.

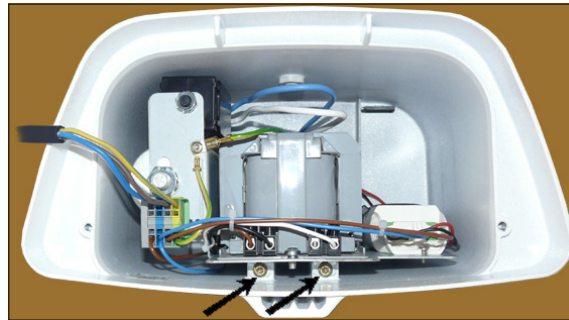


**Never remove the glass armature cover. This is to ensure that the sealing in the cover always remains properly closed. Removal of the cover invalidates the warranty. Disassembly should only be by means of removing the plastic cover-ends of the armature.**

1. Remove both Torx screws using a screwdriver with a so-called Torx bit (T20).
2. The components and wiring can be accessed after detaching the mounting plate.
3. Attach the mounting plate and secure it again to the aluminium armature housing using both Torx screws.



**Ensure that the wiring is not connected to the power supply and that it does not loosen or get entangled between parts.**



## Mounting the armature

### Bracket fixture

Use the bracket fixture to attach and secure the armature to the building structure, such as the ceiling, separate suspended construction or a support beam.

1. Mount the light in the armature; consult the section entitled "Mounting and/or replacing the light".
2. Ensure that the building structure (the ceiling or a suspended construction or a support beam) is able to carry the weight of the armature.



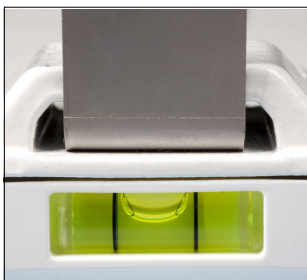
3. Secure the fixture bracket properly to the building structure, at the position according to the lighting plan.
4. Attach the long sides of the L-shaped brackets to the fixture bracket.



5. Press the shorter sides of the L-shaped brackets into the slots on the upper side of the armature until each bracket and hole is secured over securing ridges. This securing mechanism is no longer detachable.



6. The armature is provided with a level indicator so that the armature can be mounted and secured in the correct horizontal position. This level indicator is located in the top of the plastic cover of the electronics compartment.



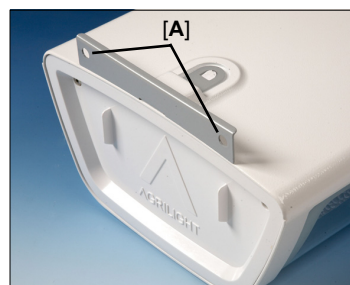
### Chain fixture

Use the chain fixture to suspend the armature with chains.

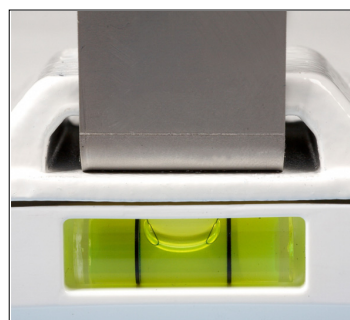
1. Mount the light in the armature; consult the section entitled "Mounting and/or replacing the light".
2. Ensure that the building structure (the ceiling or a suspended construction or a support beam) is able to carry the weight of the armature.
3. Press the 2 T-shaped brackets into the slots on the upper side of the armature until each bracket and hole is secured over the securing ridges. This securing mechanism is no longer detachable.
4. Mount the chains properly and securely to the building structure (the ceiling or a suspended construction or a support beam).



5. Suspend the armature by hooking the chains to the openings [A] of the brackets.



6. The armature is provided with a level indicator so that the armature can be mounted and secured in the correct horizontal position. This level indicator is located in the top of the plastic cover of the electronics compartment.



## Maintenance

### Inspection and Cleaning



Disconnect the AGRILED® RED from the power supply before conducting maintenance on the armature!

Agrilight B.V. recommends that you have your AGRILED® light system serviced once a year by a certified technician to test its operation and to check all fixtures and connections.

Contamination of the armature has an adverse effect on the distribution of lighting and luminance.

In order to retain the desired amount of lighting (luminance or light intensity) it is recommended that the armatures are inspected at least twice a year and cleaned using mild soap, or more frequently if the livestock shed climate and contamination make this necessary.

### Cleaning set

A special cleaning set is available for cleaning the AGRILED® RED armature. This consists of a rounded brush, telescopic rod, a bucket to size and a special cleaning agent. For more information or to order the cleaning set, please contact your service technician or Agrilight B.V. directly.

### Placing and replacing the light sources

#### LED lighting



Fitting and replacing is NOT described in this section. LED lighting may only be fitted, replaced or repaired by specialized personnel.

#### Removing a 250W/400W MH/HPS light



Please be aware that both the armature glass and the light can be very hot and cause severe burns. Leave the light to cool down for at least 30 minutes before removing.



To ensure safety, before removing and plastic cover, please ensure that the armature is disconnected from the power mains.

1. Remove the two Torx screws from the plastic cover of the light compartment using a Torx (T20) screwdriver.
2. Use the two tabs to release and remove the cover. In the resulting opening there is a reflector with a rectangular window which provides manual access to the light.
3. Unscrew the light carefully by turning it in an anti-clockwise direction.

#### Fitting a 250W/400W MH/HPS light



The correct light must always be used in the armature. This is to prevent damage to the lights. For the correct light, please refer to the type sticker on the armature.



Never touch the light with your bare hands. Use clean gloves. Contamination of the light gas can decrease the life-cycle of the light.

To ensure safety, before removing and plastic cover, please ensure that the armature is disconnected from the power mains.

1. Place the light by carefully screwing it into the fitting until it is tight. Ensure that the reflector plates are deformed during replacement of the light. After screwing the light into position it is recommended that this is then centred manually in relation to the reflector/light axis. The slight lateral tolerance of the light in the fitting can be used to do this. Pressing a light slightly against the light glass will suffice.



2. After completing installation: clean the contact surfaces of the cover gasket and sealing and the cover of the armature using a mild detergent on a damp cloth. Inspect the rubber sealing and gasket and replace if necessary.
3. Rub some mild soap or acid-free vaseline onto the rubber sealing and gasket so that the cover can be fitted more easily.
4. Close the armature by replacing the cover and by screwing the two Torx screws tightly into position. To prevent damage to the cover or to the sealing do not use a battery-powered device to do this, nor apply excessive force. When closed, the cover should fit just inside the rim of the aluminium armature housing.

### Malfunctions



When checking malfunctions, be aware of the risk of electrically live components. Although the armatures are designed with safety in mind and are earthed, hazards due to malfunctions can never be ruled out. Only certified technicians are permitted to handle the electrical installation or to perform measurements on the unit.

Always disconnect the armature before opening the plastic cover (turn off the main switch and secure it, e.g. with the use of a padlock).

Be aware of and prevent any accidental activation by others or by an automated control and/or dimmer switch. In the event of a malfunction, never touch the armature whilst the power supply is still connected or if the casing of the armature is damaged or wet.

## Malfunction of the primary PL lighting

If the PL lamp does not operate properly (no sign of illumination) check:

- the electrical power supply;
- whether the armature is switched on (check switch);
- whether the power supply unit is intact (correct voltage);
- whether the fuses are intact;
- whether the control unit is properly configured (if present, check: timer, PLC and the operation of the dimmer switch);
- the light and replace it if necessary.

If the light does illuminate but abnormally:

- Check whether the light is at the end of its life-cycle, indicated by:
    - If the light flickers, does not start smoothly or if it clearly produces less light than usual: disconnect the armature to prevent any damage to the light-ignition circuit;
    - If the end of the tube in the light (the burner) has turned brown or black;
    - If the inside of the light has turned brown.
- In these cases, always replace the light.

If the armature still doesn't operate properly after replacing the light:

- Contact a technician to take the following action:
  - Replace the starter unit
  - Replace capacitor
  - Replace triggering unit

## Malfunctions in the secondary LED lighting

In essence, the LED lighting consists of a number of LEDs that are mounted in arrays to both of the wing reflectors.



In order to prevent thermal damage to the LED lighting, the LED lighting may never be switched on at the same time as the primary PL light source. The LED lighting must be connected in this way so as to prevent it from illuminating whilst the primary light source is switched on.

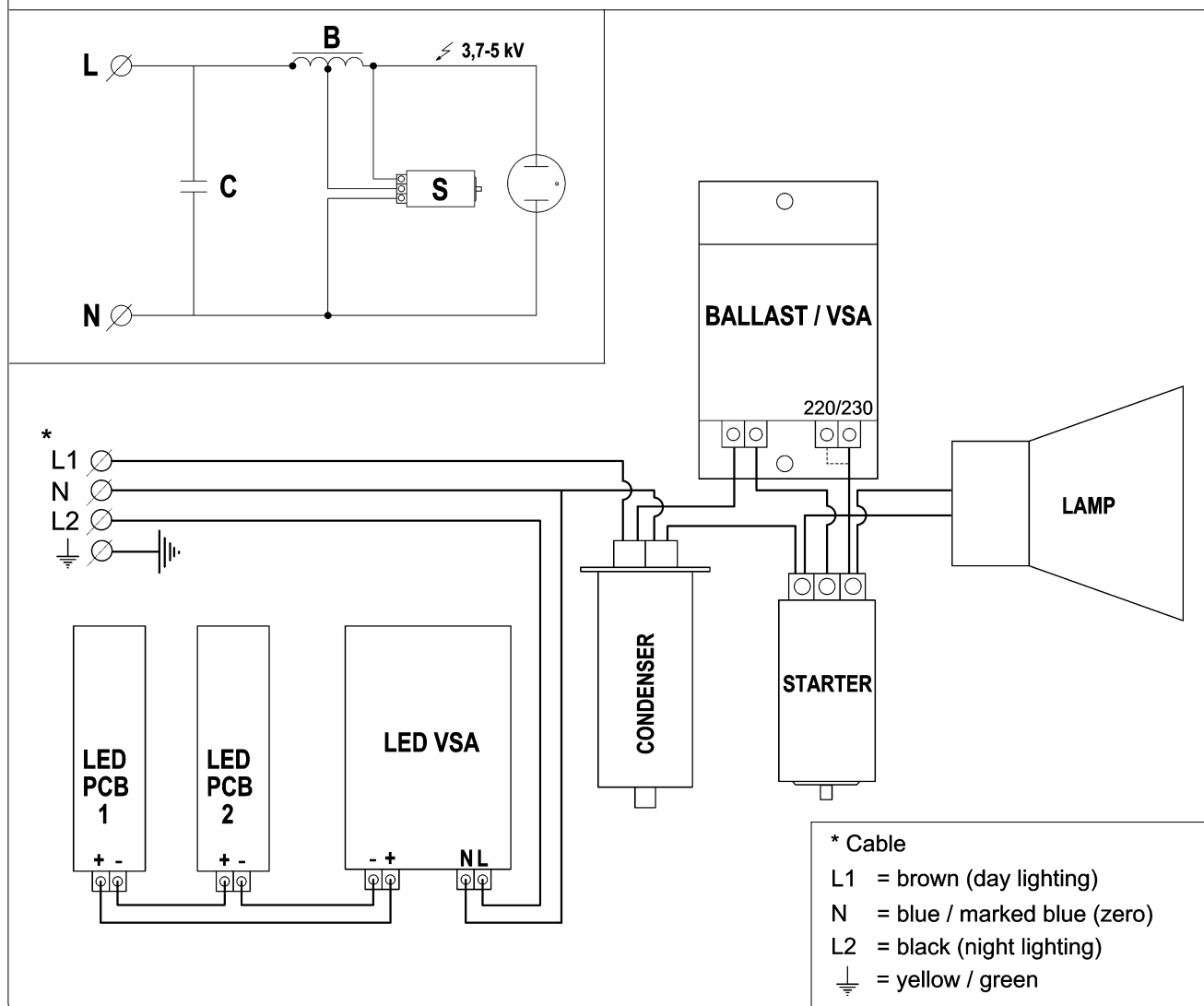
If none of the LED lights illuminate (no sign of illumination) check:

- the electrical power supply;
- Determine whether the primary lighting has been switched off for more than 10 minutes;
- whether the LED lighting is switched on (check switch);
- whether the power supply unit is intact (correct voltage);
- Inspect the fuses to determine whether these are still intact;
- whether the control unit is properly configured (if present, check: timer, PLC and the operation of the dimmer switch);
- There is probably a defect in the LED light configuration that can only be repaired by specialized and/or certified personnel. Consult Agrilight B.V. for the necessary action to be taken.

If not all LED lights illuminate:

- The AGRILED® system is designed in such a manner that there will generally be a suitable light intensity in the event that one or more LEDs become defective. Please refer to the terms of warranty. If and as soon as any repair or replacement of defective LEDs is needed: The replacement of defective LEDs may only be performed by certified personnel. Consult Agrilight B.V. for the necessary action to be taken.

## Electrical circuit diagram AGRILED® 250W/400W MH/HPS





# User Guide and Assembly Instructions Agriled® armature

## Type: AGRILED® RED 250W/400W MH/HPS

### CONDITIONS OF WARRANTY

#### General

1. If it appears that your product does not function well, even though you have used it in the correct manner and in accordance with the user manual and assembly instructions, the product will be replaced free of charge within a period of one year after purchase. In order to claim this warranty the customer must submit the product invoice to Agrilight B.V. with the 1 year warranty period.
2. The product must be returned to Agrilight B.V. within 30 days following the occurrence of the defect or malfunction for the purpose of verification.
3. The product must be provided with a project name and sent to the following address:  
Agrilight b.v.  
Attn.: Service Dept.  
Vlotlaan 412  
2681 TV Monster, The Netherlands
4. When Agrilight B.V. sends the replacement parts you will receive an invoice that will be credited to your account when and if it can be verified that the malfunction of defect is covered by the warranty.
5. If Agrilight B.V. has not received the defective product by return mail within 30 days of the invoice date, the warranty invoice will be treated as a sales invoice, after which period the invoiced amount must be paid to Agrilight B.V. within 30 days.
6. The warranty does not cover the following situations for which the customer will be invoiced during the warranty period:
  - a. Defects or damage resulting from fire, earthquakes, floods, lightning strikes, other natural disasters, as well as environmental pollution and problems related to power supply.
  - b. Defects resulting from sand, mud, dirt etc. entering the cabinet of the product.
  - c. Defects resulting from transport, accidents, shock and vibrations etc. following the purchase from and delivery of the product by Agrilight B.V..
  - d. Defects resulting from carelessness or incorrect storage, improper maintenance etc.
  - e. Defects resulting from improper use (such as the use of the unit for purposes not listed in the user manual and/or assembly instructions etc.).
  - f. Defects resulting from (uncertified) repairs and modifications.
  - g. If the invoice cannot be submitted together with the product when warranty claims are made.
  - h. If changes have been made to the original purchase invoice or to the customer name on the invoice.
7. The liability on the part of Agrilight B.V. is limited to the scope of this warranty and only includes the replacement and/or repair of the product. Agrilight B.V. accepts no liability for damages incurred directly or indirectly as a result of any defects in the product. Agrilight B.V. is not liable for expenses incurred as a result of disassembly and assembly/mounting, or expenses incurred as a result of travel and accommodation.
8. Any damage resulting from transport or incomplete delivery must be reported to Agrilight B.V. within 5 working days. Any notifications received by Agrilight B.V. beyond this period do not fall within the scope of the warranty or warranty period.

#### Warranty on the lights

1. A warranty period of 1 year applies to the lights and LEDs of armatures supplied by Agrilight B.V.
2. This warranty applies only to normal use and normal operating conditions with regard to power/voltage and frequency.
3. In the case of all lights supplied by Agrilight B.V. account must taken of approx. 1% failure per 1000 lighting hours.
4. With regard to the AGRILED®, a defect or damage to fewer than 2 LEDs per LED-strip is considered as an esthetic defect which does not affect the normal operation of the armature.
5. Lights that fail prematurely during the course of the warranty period will be replaced by Agrilight B.V. Lights that fail as a result of abnormal external effects, due to breakage of the exterior bulb following thermo-shock or due to theft, do not fall under the replacement warranty.
6. The warranty does not apply to failure of the lights applied to systems in which those light types were used if such a system is not in compliance with IEC standards and requirements.

#### Aging and tolerances in the intensity of the lights applied

The light will age during use and will eventually emit less light as the number of total life-cycle lighting hours increases. The drop in light intensity is increased by a voltage that exceeds the prescribed rated power.

### LIABILITY

Agrilight B.V. states emphatically that it cannot be held liable for damages of any kind or magnitude, caused by non-compliance with the instructions in this manual or as a result of non-compliance with the connecting and installing requirements according to NEN 1010. We also refer to our terms and conditions of delivery according to the conditions and requirements laid down by the Netherlands Metal Association and any additional warranty provisions of Agrilight B.V. We reserve the right to make amendments without further notification.